

RF EXPOSURE Test Report

Product: Vehicle navigation equipment

Trade Mark: N/A

Model Number: UIS7870

FCC ID: 2BYC7-UIS7870

Prepared for

Dongguan Yiling Electronic Co.,Ltd.

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Prepared by

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Table of Contents

1	GENERAL DESCRIPTION	5
1.1	DESCRIPTION OF EUT.....	5
1.2	TEST MODE.....	5
1.3	TEST SETUP.....	5
1.4	ANCILLARY EQUIPMENT	5
2	TEST FACILITIES AND ACCREDITATIONS	7
2.1	TEST LABORATORY	7
2.2	ENVIRONMENTAL CONDITIONS	7
2.3	MEASUREMENT UNCERTAINTY	7
2.4	TEST SOFTWARE	7
3	LIST OF TEST EQUIPMENT	8
4	RF EXPOSURE	9
4.1	STANDALONE SAR TEST EXCLUSION CONSIDERATIONS.....	9
4.1.1.	<i>Limit</i>	9
4.1.2.	<i>Test Result</i>	9

TEST RESULT CERTIFICATION

Applicant's Name..... : Dongguan Yiling Electronic Co.,Ltd.
Room 901, Building 3, Shidai Zhirui Technology, No.159, Luwu
Address : Sanlian Road, Changping Town, Dongguan City, Guangdong
Provinc
Manufacturer's Name : Dongguan Yiling Electronic Co.,Ltd.
Room 901, Building 3, Shidai Zhirui Technology, No.159, Luwu
Address : Sanlian Road, Changping Town, Dongguan City, Guangdong
Provinc

Product description

Product name : Vehicle navigation equipment
Model Number : UIS7870

Standards : FCC CFR 47 PART 1 , 1.1310

Test procedure..... : KDB 447498 D01 General RF Exposure Guidance v06

This device described above has been tested by Shenzhen HongBiao Certification& Testing Co., Ltd and the test results show that the equipment under test (EUT) is in compliance with the EMC requirements. And it is applicable only to the tested sample identified in the report.

Date of Test..... :

Date (s) of performance of tests..... : Aug 10, 2026~Sep 05, 2026

Test Result..... : **Pass**

Testing Engineer :

Zoe su

(Z o e S u)

Technical Manager :

Ming Liu

(Ming Liu)

Authorized Signatory :

Leo Su

(L e o S u)

[illegible]

1 General Description

1.1 Description of EUT

Product name:	Vehicle navigation equipment
Model name:	UIS7870
Series Model:	UIS7865, UIS7870, UIS7861, UIS8581, SM6225, SM6125, SM6115, SM4390
Different of series model:	All the models are the same circuit and module, except the model No..
Operation frequency:	2402-2480MHz
Modulation type:	GFSK, $\pi/4$ -DQPSK, 8DPSK
Bit Rate of transmitter:	1 Mbps, 2Mbps, 3Mbps
Antenna type:	Glue Stick Antenna
Antenna gain:	3.74dBi
Max. output power:	1.964dBm
Hardware version:	L880AV_ERE_E_240125_FR4
Software version:	V2.1
Battery:	N/A
Power supply:	DC 12V
Adapter information:	N/A

1.2 Test Mode

Pretest Test Mode	Description of Mode
1	TX
2	/
3	/

1.3 Test Setup

See photographs of the test setup in the report for the actual setup and connections between EUT and support equipment.

1.4 Ancillary Equipment

Equipment	Model	S/N	Manufacturer
Adapter	EQ-24BCN	/	Huizhou Dongyang Yienbi Electronics Co., Ltd.

Load	/	/	/

2 Test Facilities and Accreditations

2.1 Test Laboratory

Test Site	Shenzhen HongBiao Certification& Testing Co., Ltd
Test Site Location	Room 102, 201, Building 2, Yuanwanggu RFID Industrial Park, Tongguan Road, Tianliao Community, Yutang Street, Guangming District, Shenzhen, China
Telephone:	(86-755) 2998 9321
Fax:	(86-755) 2998 5110
Designation Number:	848916
FCC Registration No.:	CN1341
A2LA Certificate No.:	6765.01

2.2 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15°C~35°C
Relative Humidity:	20%~75%
Air Pressure:	98kPa~101kPa

2.3 Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

The data and results quoted in this document are true and accurate values, and uncertainties are not involved in the calculations.

In addition, components and mass production processes that are similar to testing equipment may introduce additional deviations, and the manufacturer is solely responsible for the continued compliance of the equipment.

Measurement Frequency Range	U, (dB)	Note
RF frequency	2×10^{-5}	
RF power, conducted	± 0.57 dB	
Temperature	± 1 degree	
Humidity	± 5 %	

2.4 Test Software

Software name	Manufacturer	Model	Version
RF Test System	MWRF	MTS 8310	V2.0.0.0

3 List of Test Equipment

RF							
Item	Equipment No.	Equipment name	Manufacturer	Model	Serial No.	Calibration date	Due date
1	HB-E041	MXG Anaio Signal Generator	Agilent	N5181A	MY47070421	2026-04-27	2027-04-26
2	HB-E042	WIDEBAND RADIO COMMUNICATION TESTER	R&S	CMW500	132108	2026-04-27	2027-04-26
3	HB-E043	MXG Anaio Signal Generator	Agilent	N5182A	US46240335	2026-04-28	2027-04-27
4	HB-E044	Signal & spectrum Analyzer	R&S	FSV3044	101264	2026-04-28	2027-04-27
5	HB-E045	RF Control Box	Noyetec	NY100-R FCB	N/A	2026-04-28	2027-04-27
6	HB-E058	Thermometer Clock Humidity Monitor	N/A	HTC-1S	N/A	2026-04-30	2027-04-29

Note: the calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

4 RF Exposure

4.1 Standalone SAR test exclusion considerations

4.1.1 Limit

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) Radiation as specified in §1.1307(b).

Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	*900/f ²	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	*180/f ²	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

MPE Calculation Method

Friis transmission formula: $P_d = (P_{out} \cdot G) / (4 \cdot \pi \cdot R^2)$

Where

P_d = Power density in mW/cm²

P_{out} = output power to antenna in mW

G = Numeric gain of the antenna relative to isotropic antenna

π = 3.1415926

R = distance between observation point and center of the radiator in cm(20cm)

P_d the limit of MPE, 1mW/cm².

If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

4.1.2 Test Result

BR+EDR/BLE:

Operation Frequency: 2402-2480MHz,

Power density limited: 1mW/ cm²

R = 20cm

$mW = 10^{(dBm/10)}$

antenna gain Numeric = $10^{(dBi/10)} = 10^{(3/10)} = 2.37$

BR+EDR:

Chann el Freq. (MHz)	modulatio n	conducte d power	Tune -up powe r (dBm)	Max		Antenna		Evaluation result	Power density Limits
		(dBm)		tune-up power		Gain		(mW/cm ²)	(mW/cm ²)
				(dBm)	(mW)	(dBi)	Nume ric		
2402	GFSK	1.072	1±1	2	1.585	3.74	2.37	0.0007	1
2441		1.851	1±1	2	1.585	3.74	2.37	0.0007	1
2480		1.964	1±1	2	1.585	3.74	2.37	0.0007	1
2402	π/4-DQP SK	1.076	1±1	2	1.585	3.74	2.37	0.0007	1
2441		1.846	1±1	2	1.585	3.74	2.37	0.0007	1
2480		1.941	1±1	2	1.585	3.74	2.37	0.0007	1
2402	8DPSK	1.068	1±1	2	1.585	3.74	2.37	0.0007	1
2441		1.848	1±1	2	1.585	3.74	2.37	0.0007	1
2480		1.946	1±1	2	1.585	3.74	2.37	0.0007	1

For the max result: $0.0007 \leq 1 \text{mW/cm}^2$ SAR, No SAR is required.

***** END OF REPORT *****